

# High-precision DC voltage current regulator

## INSTRUCTION MANUAL

305D<sup>IV</sup>  
*English*

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**Statement:** The company reserves the right to improve and upgrade products, product specifications and design are subject to change without notice.



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Thank you for choosing this type of DC power supply. Please read the user guide thoroughly before using, and keep it in a safe place for future reference.

## NOTED

When using an electrical appliance, basic precautions are required to always be followed, including the following:

Read all instructions before using DANGER - To reduce the risk of electric shock:

1. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
2. Children are not allowed to play the machine.
3. Cleaning and maintenance shall not be made by children without supervision.
4. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
5. Do not leave the appliance unattended when it is switched on.
6. High voltage in machine, amateurs do not dismantle machine.
7. People with defects in physical and mental or the one lack of using experience is not supported to use the product unless under the professional person's guide and instruction. Keep it far away from the children.

## WARNING

1. AC input: service voltage must match the machine input voltage. (AC 110V/ 220V)
2. There must be sufficient space around the power source for heat dissipation.
3. Output voltage overshoot limit: When switch on the power supply, output voltage should be not exceed setting value.
4. Do not use the product in environments where temperatures exceed 40°C.
5. When charging the battery, do not reverse the positive and negative terminals to avoid damage to the battery.
6. This product is of a fan-less design, full power output should be at least 4 hours. For longer continuous operation, please set the usage control rate under 80%, otherwise an artificial early failure may be possible. When ordering the product, please reserve the balance according to the actual operating current.

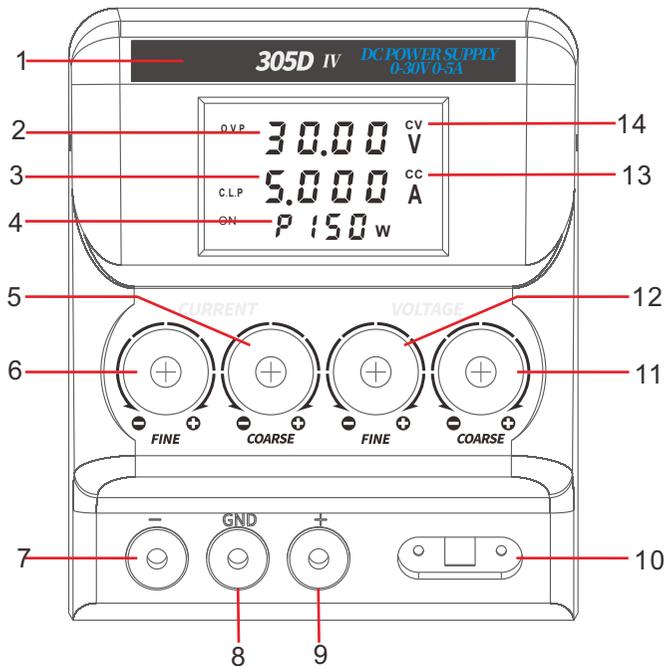
## I. Product Feature

This DC stabilized switching power supply is designed for use in laboratories, schools, production lines, and electronic repair. It has a small size and is lightweight, which is very easy to transport and carry. It has high efficiency, high load capacity, and low noise and is superior to linear power supplies.

## II. Parameters

| Rated Working Condition and Machine Appearance |                                     |
|--|-------------------------------------|
| Input voltage                                  | AC 110V / AC 220V optional          |
| Frequency                                      | 50Hz/60Hz                           |
| Power  | 194W                                |
| Working environment                            | -10°C~40°C                          |
| Working environment humidity                   | <90%                                |
| Storage condition                              | -10°C~40°C                          |
| Storage environment humidity                   | <80%                                |
| Machine dimension                              | L282xW125xH156mm ±5mm               |
| Unit weight                                    | 2.3kg ±50g                          |
| Regulation Voltage                             |                                     |
| Output voltage                                 | 0-30V                               |
| Voltage stability                              | ≤0.01% +2mV                         |
| Load stability                                 | ≤0.2% +2mV                          |
| Voltage display precision                      | Digital display of 1% ±1 characters |
| Ripple noise                                   | <0.3% Vrms                          |
| Temperature coefficient                        | ≤200PPM/°C                          |
| Regulation State                               |                                     |
| Output current                                 | 0-5A                                |
| Load stability                                 | ≤0.1% +3mA                          |
| Current stability                              | ≤0.02% +mA                          |
| Ripple noise                                   | <1% Vrms                            |
| Current display precise                        | Digital display of 1% ±1 characters |

### III. Panel Control Description



- |                                  |                                   |
|----------------------------------|-----------------------------------|
| 1. Model                         | 8. Connection wire                |
| 2. Output voltage                | 9. The output positive terminal   |
| 3. Output current                | 10. Power switch                  |
| 4. Output power                  | 11. Voltage coarse adjusting knob |
| 5. Current coarse adjusting knob | 12. Voltage fine adjusting knob   |
| 6. Current fine adjusting knob   | 13. Constant current indicator    |
| 7. The output negative terminal  | 14. Constant voltage indicator    |

### IV. Usage Instruction

#### Operation

1. Connecting to the power source, set the machine input voltage to the same with use voltage (AC 110V/220V).
2. Turn on the power switch, indicator C.V light (current coarse and fine adjustment knob does not 0), current and voltage display shows the "000", a voltage display the output voltage.
3. Adjust the voltage coarse/fine knob to the request voltage ( current coarse and fine adjustment knob not 0), output voltage range: 0-30V DC.
4. When connecting to an external load to the "+", "-" output terminals, output "+" or "-" posts must have a reliable connection with GND terminal, it can reduce the output ripple of power.

#### Current Setting

1. Firstly, adjust voltage coarse and fine knob to the voltage value between 2 to 5V (current coarse and fine adjustment knob is not 0).
2. And then adjust current coarse and fine knob to 0 (Anti-clockwise to the end).
3. Connect output terminal "+" and "-" with wire.
4. Then adjust the current coarse and fine knob to set the working voltage and then you can continue your operation.

#### Voltage/Current Characteristics

This machine is the type that the voltage and current can convert automatically. It means that the regulator voltage and current keeps converting according to the load change. The switching point between the regulation and the steady current state becomes the transition point.

**For example:** When the machine is in stable state, if the output voltage is constant, the output current will change according to the load and there is no any change for output voltage. When the load increase(resistance decrease), voltage is down. The conversion of regulator voltage and current is shown from panel LED indicator, CV indicator for regulator voltage and CC indicator for regulator current.

### Product certification

|                     |  |
|---------------------|--|
| Model NO.           |  |
| Product ID          |  |
| Examine             | Upon examination products meet technical standards  |
| Sales Date          |  |
| Date of manufacture |  |

### Warranty Card

**Thank you for choosing this type of products, please read the following terms before using:**

1. From purchasing date within 7 days, under normal use(Non-artificial damage), new package, not be disassemble and repaired ,enjoy replacement service.
2. From purchasing date within one year, under normal use, if there are quality problem, not be disassemble and repaired ,enjoy free repair service.
3. For more than warranty, we provide a lifetime warranty service, free of labor costs, charge only spare parts costs.
4. Failure to present warranty card during warranty period, the company will not be a free service.
5. Users need warranty service, please contact your original sales unit.
6. When users need warranty service, please provide warranty card and purchase invoice, or receipt of the certificate of the company seal.
7. Warranty does not include transportation costs and provide on-site service.

### Maintenance records

| NO. | Date for repair | Cause | Fix date | Repairer |
|-----|-----------------|-------|----------|----------|
|     |                 |       |          |          |
|     |                 |       |          |          |
|     |                 |       |          |          |